

The chief object of the work is to serve as a field manual. This and the succeeding volumes will fill a long felt need of some comprehensive work on the more conspicuous fungi of North America.

F. J. SEAVER

*Murrill's American Boletes**

This manual of the Boletaceae contains complete keys to the genera and species and full descriptions of all of the species known in America. The boletes, which are pore-fungi, differ from the polypores chiefly in their fleshy consistency and terrestrial habits. The group contains many of our best edible fungi. On account of their fleshy consistency the plants are altered greatly in drying and it is necessary to keep extensive field notes as an aid in making determinations. A blank form is inserted in the book to serve as a guide to collectors in making field notes.

The general style and purpose of the book is the same as that of "Northern Polypores," which was published at the same time and by the same author.

F. J. SEAVER

MOORE, B. THE PRESENCE OF INORGANIC IRON COMPOUNDS IN THE CHLOROPLASTS OF THE GREEN CELLS OF PLANTS, CONSIDERED IN RELATIONSHIP TO NATURAL PHOTO-SYNTHESIS AND THE ORIGIN OF LIFE, *Proc. Roy. Soc. B.* **87**: 556-570, 1914, reports obtaining striking, clean cut reactions (by means of Macallum's haematoxylin method) indicating the localization of iron in the stroma of chloroplasts.

Somewhat earlier Moore and Webster (*Proc. Roy. Soc. B.* **87**: 163-176) announced that they obtained a synthesis of formaldehyde from carbon dioxide and water in the presence of ferric hydroxide and light. Moore concludes that iron salts in the stroma of chloroplasts are primary factors in the initial stages of synthesizing carbon dioxide and water, and also in the production of chlorophyll; the latter in association with the iron-bearing portions of the colorless stroma forming the complete photo-

* Murrill, Wm. A. *American Boletes*. Pp. i-v + 1-40. Privately published. December, 1914. Price \$1.00, postpaid.

synthetic apparatus. As to the part played by chlorophyll, the various familiar possibilities remain; if concerned in the synthesis as such of carbohydrates, it presumably affects the later stages of the process rather than the initial ones.

In support of these conceptions, attention is called, among others, to the following well-established facts: (1) In the majority of plants, at any rate, chlorophyll itself is a product of photosynthesis formed with the aid of light by a "photosynthetic substance" present in the plastid. (2) Although iron is not present in chlorophyll, chlorosis follows an insufficient supply of iron, and can be readily cured by the application of iron salts. (3) Numerous attempts notwithstanding, it has not been possible thus far to bring about to any considerable extent a synthesis of carbon dioxide and water with the aid of chlorophyll separated from plastids (chlorophyll solutions, films, etc.).

Even if we view with reserve the report that salts of iron in the presence of light bring about *in vitro* a synthesis of carbon dioxide and water into formaldehyde, the conceptions here developed by Moore go far towards illuminating the interesting relation between iron and chlorophyll.

W. M.

PROCEEDINGS OF THE CLUB

OCTOBER 13, 1914

The meeting for October 13, 1914, was held at the American Museum of Natural History at 8:15 P.M. In the absence of other officers the Secretary presided.

This being announced as an "Experience" meeting, informal reports on various subjects were in order.

Mr. Clifford Farr reported having found what purports to be a hybrid *Artemisia* in Ohio during the summer.

Dr. Jean Broadhurst spoke of self pruning of several sorts of trees and exhibited specimens of elm branches to illustrate this phenomenon.

Prof. T. E. Hazen gave a short account of his collecting trip on Mount Washington, N. H.